

The increasing toll of mental health issues on adolescents and youth in Uttar Pradesh

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Background

Mental health morbidities contribute to approximately 16 percent of the disease and injury burden among adolescents (those in ages 10–19 years) worldwide, with suicide as the third leading cause of death among adolescents aged 15–19 (World Health Organization, 2020). Mental health disorders also negatively affect education outcomes, employment and economic productivity, and sexual and reproductive health, and they increase the likelihood of violence and substance misuse (Kessler et al., 2007; Jones, 2013; Math and Srinivasaraju, 2010; Malhotra and Patra, 2014; Aggarwal and Berk, 2015). Moreover, onset of more than 50 percent of mental disorders among adults occurs before the age of 18 years (Kessler et al., 2007; Jones, 2013), which highlights the critical importance of investing in adolescents' mental health.

India's contribution alone to cases of depressive disorders and anxiety disorders worldwide was 18 percent and 15 percent, respectively (World Health Organization, 2017). The current body of evidence shows that notable proportions of adolescents have experienced mental health disorders and that the prevalence of such disorders may be on the rise in India (Math and Srinivasaraju, 2010; Malhotra and Patra, 2014; Aggarwal and Berk, 2015). It is estimated that 8–11 million Indian adolescents require mental healthcare at any given point in time (Gururaj et al., 2016).

More recently, fear and anxiety about COVID-19 and containment measures (such as social distancing) and their economic impact are likely to increase the mental health burden. Indeed, a rapid review in *The Lancet* reports that restriction of movement and quarantine can generate mental health symptoms similar to post-traumatic stress syndromes, irritability, and anger (Brooks et al., 2020).

Drawing on longitudinal surveys of adolescents in Uttar Pradesh (UP) in 2015–16 (wave 1) and three years later in 2018–19 (wave 2), this policy brief explores:

- Prevalence of mental health conditions among adolescents, and how these change over time;
- Risk and protective factors underlying mental health conditions among adolescent girls.

Key Findings

- The burden of mental health issues increased over time; it was higher for girls than boys and was the highest for married girls.
- Sources of stress varied by sex and marital status of adolescents.
- Marriage during adolescence, marital violence, and dowry harassment increased the likelihood of poor mental health conditions among girls.
- Injuries and infections significantly affected the mental health conditions of girls.
- While most adolescents sought help for mental health issues, this was mostly sought from a family member and few sought help from healthcare providers.

The UDAYA Study

Understanding the lives of adolescents and young adults (UDAYA) is a longitudinal study of adolescent boys and girls aged 10–19 in Bihar and Uttar Pradesh, conducted by the Population Council in 2015–16 and 2018–19 with the support of the Bill and Melinda Gates Foundation and the David and Lucile Packard Foundation (see www.projectudaya.in for more details about the study).

A total of **10,161** boys and girls were interviewed at wave 1 in 2015–16, and **7,825** of these boys and girls were re-interviewed at wave 2 in 2018–19 (see Population Council, 2020, for more details). The main reasons for loss to follow-up were migration of the participant (11% for boys and 6% for girls) and refusal by the participant or his/her parent or guardian for an interview (5% for boys and 3% for girls).

Findings presented in this brief draw on data from respondents who were interviewed at both surveys (N=7,825). We note that the wave 1 characteristics of those who were re-interviewed and those who were not at wave 2 differed; a larger proportion of respondents who were re-interviewed were enrolled in school, resided in rural areas, and belonged to disadvantaged castes and the Hindu religion compared with respondents who were not re-interviewed.

The Patient Health Questionnaire (PHQ-9), a nine-item depression-screening module, was used to assess depression-related symptoms in the two weeks prior to the interview at both waves. Participants were also asked about suicide ideation and suicide attempts in the year preceding the interview.¹

We compared PHQ-9 scores at wave 1 and wave 2 for adolescents who were interviewed at both waves, and we also conducted bivariate analysis and Chi-square test.² To explore risk and protective factors underlying mental health conditions among older adolescent girls (the group that reported the most symptoms of moderate to severe depression among all categories of adolescents), we fitted fixed effects regression models. The models were fitted separately for girls who were unmarried³ and married⁴ at wave 1.

We also draw on a 2020 rapid telephone survey conducted with a sub-sample of UDAYA participants (N=2,041) in April 2020 (see Acharya et al., 2020, for additional details).

Results

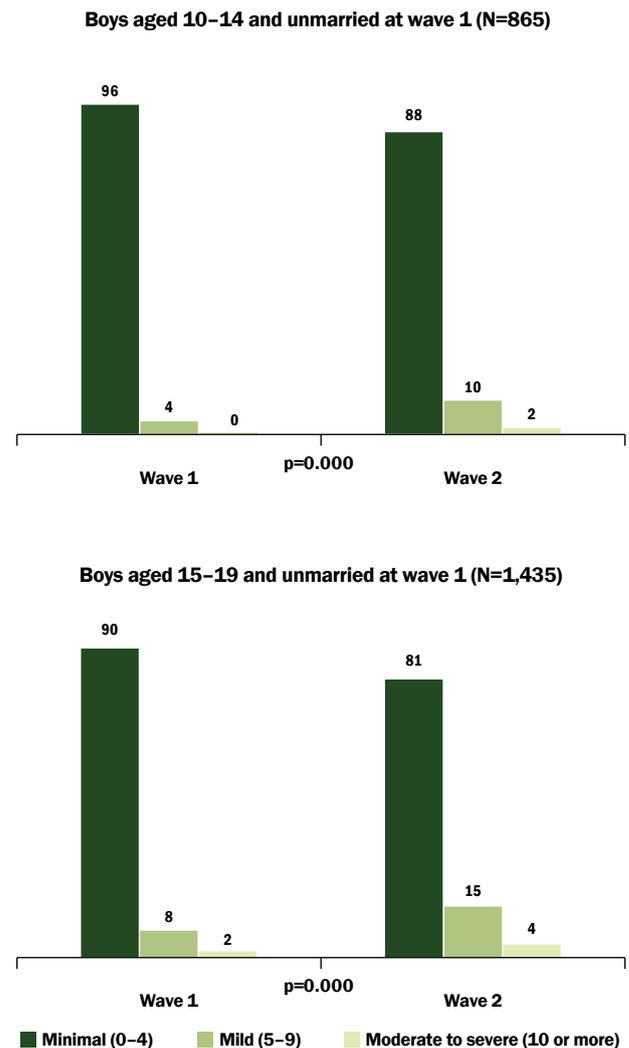
Key Finding 1

The burden of mental health issues increased over time; it was higher for girls than boys and was the highest for married girls

Boys and girls who reported symptoms suggestive of mild (PHQ-9 score of 5–9) and moderate to severe (PHQ-9 score of 10 and above) depressive disorders in the two weeks preceding the interview increased significantly over time (Figure 1A and 1B). Findings also show that girls scored higher than boys on the PHQ-9, particularly older adolescent girls, indicating that girls’ mental health was worse than boys. This gender gap persisted over time. Among adolescents aged 15–19 and unmarried at wave 1, for example, the percentage of girls reporting symptoms

suggestive of moderate to severe depression increased by four percentage points, from five percent to nine percent between the two rounds of the survey (Figure 1B), while it increased by two percentage points, from two percent to four percent, among boys (Figure 1A).

Figure 1A: Percent distribution of boys by scores obtained in Patient Health Questionnaire (PHQ-9) for the two weeks preceding the interview at wave 1 and wave 2, Uttar Pradesh, 2015–16 and 2018–19



Note: All Ns are unweighted.

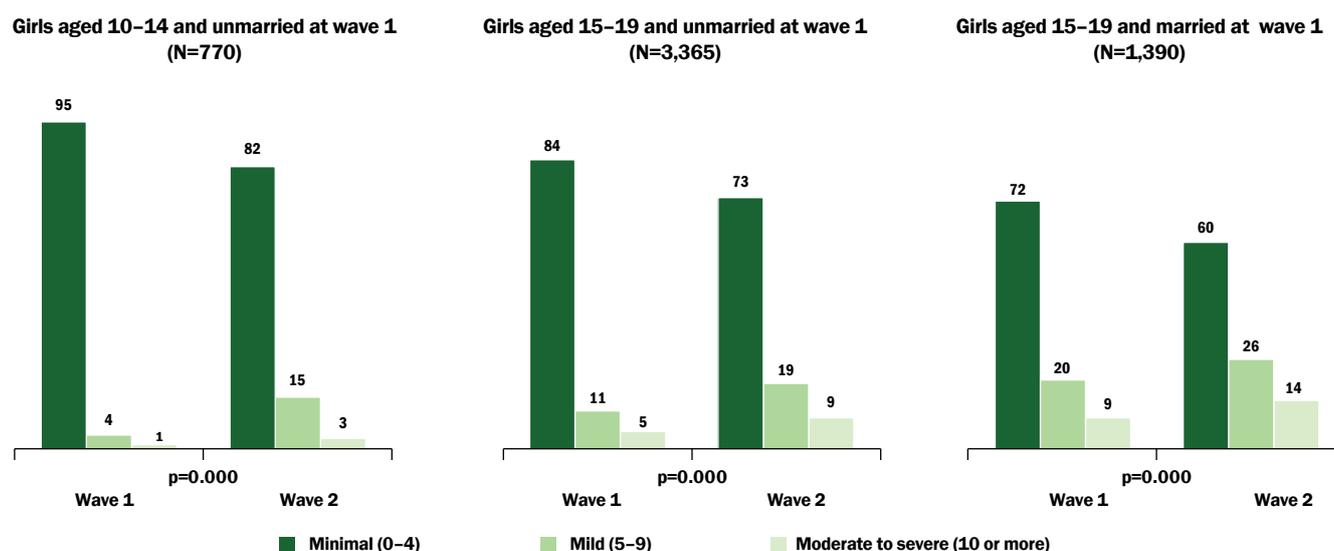
¹At wave 1, questions about suicide ideation and suicide attempts were posed to those aged 13 and above.

²All means, medians, and percentages indicated in the tables and figures have been weighted using normalised weights for the total population. However, in order to show the total number of adolescents and young adults interviewed, unweighted numbers of respondents (Ns) are provided. Because numbers are unweighted and percentages are weighted, we caution readers against deriving numbers based on the percentages provided in the tables and figures.

³For the regression model, drawing on the unmarried girls sample, we included explanatory variables such as respondent’s education, engagement in paid economic activities, seeking jobs, marital status, place of residence, agency (role in decision-making, freedom of movement, ownership of a bank account, gender role attitudes), peer networks (number of friends, having a confidant, membership in groups), future aspirations, role models, substance use, experience of genital infection symptoms, experience of injuries, and interactions with frontline health workers.

⁴For the regression model, drawing on the married girls sample, we included, additionally, marital duration, experience of physical violence, experience of dowry harassment, number of living children, number of pregnancy loss, unwanted pregnancy, experience of pressure to bear child, and household wealth index, and we excluded the marital status variable.

Figure 1B: Percent distribution of girls by scores obtained in Patient Health Questionnaire (PHQ-9) for the two weeks preceding the interview at wave 1 and wave 2, Uttar Pradesh, 2015–16 and 2018–19



Note: All Ns are unweighted.

Findings also show that a notable minority of boys and girls had reported suicidal behaviour, that is, seriously contemplating suicide, making a plan to commit suicide, and attempting to commit suicide in the year preceding the interview at both waves (Table 1). At wave 2, for example, 2–3 percent of boys and 5–11 percent of girls reported that they had contemplated suicide in the year preceding the interview.

Among girls, the mental health burden was the highest among married girls: the proportion of married girls who reported symptoms indicative of moderate to severe depression in the two weeks preceding the interview increased by five percentage points, from nine percent at wave 1 to 14 percent at wave 2. A similar proportion of married girls reported their having seriously contemplated committing suicide in the year preceding the interview in wave 1 and wave 2 (9% and 11%, respectively), and some 2–3 percent had made at least one attempt (Table 1).

Table 1: Percentage of adolescents reporting suicidal behaviour in the 12 months preceding the interview at wave 1 and wave 2, Uttar Pradesh, 2015–16 and 2018–19

Indicators of suicidal ideation	Boys aged 13–14 and unmarried at wave 1		Boys aged 15–19 and unmarried at wave 1		Girls aged 13–14 and unmarried at wave 1		Girls aged 15–19 and unmarried at wave 1		Girls aged 15–19 and married at wave 1	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Seriously considered attempting suicide	1.1	2.1	2.5	3.1	1.7	5.2*	4.5	5.6	8.7	10.7
Made a plan on how to commit suicide	0.0	0.2	0.8	1.2	0.0	1.4*	0.7	1.9***	2.8	3.3
Made at least one attempt to commit suicide	0.0	0.0	0.3	1.0	0.0	1.0*	0.6	1.6***	2.3	2.6
Number of respondents aged 13 and above at wave 1¹	304		1,388		328		3,303		1,374	

Notes: All Ns are unweighted. Significance level: * $p \leq 0.05$ and *** $p \leq 0.001$. ¹ Respondents who were interviewed over phone were not asked about suicide ideation and attempt and were therefore excluded from the analysis (N=130).

Key Finding 2

Sources of stress varied by sex and marital status of adolescents

We asked adolescents who had experienced symptoms suggestive of moderate to severe depression (PHQ ≥ 10) in the two weeks preceding the interview at wave 2 about their sources of stress. We present findings for boys and girls aged 18–22⁵ at wave 2 by their marital status at wave 2 (Figure 2), and these show that sources of stress varied by sex and marital status. Employment-related stress (tensions about finding a good job, not getting a job, etc.) and a recent episode of illness or injury (respondent's own or that of a family member) or death of a family member were the greatest sources of stress for unmarried boys aged 18–22 at wave 2 (48% and 27%, respectively, of those with PHQ ≥ 10 ; not shown in figure), while injury and illnesses, including death of a family member, and education-related stress (for example, tension due to discontinuation of studies, fear of failure, examination-related stress) were the top two reasons for unmarried girls aged 18–22 at wave 2 (40% and 25%, respectively; not shown in figure). In contrast, experiencing or witnessing domestic violence, stress related to childbearing (that is, tension related to current or recent pregnancy, miscarriage, infant death, and inability to conceive a child) and illness or injury topped the sources of stress for married girls aged 18–22 at wave 2 (36%, 27%, and 25%, respectively; not shown in figure). Findings from a rapid telephone survey conducted among a sub-sample of UDAYA participants in the wake of the COVID-19 outbreak reaffirm that job loss, household financial insecurity, and experience of marital violence are important triggers for feeling lonely, depressed, or irritable (Gundi, 2020).

Key Finding 3

Marriage during adolescence, marital violence, and dowry harassment increased the likelihood of poor mental health conditions among girls

Drawing on the sample of girls who were aged 15–19 and unmarried at wave 1, the fixed effects regression analysis highlights that marriage in adolescence is a risk factor for moderate to severe depression. Girls who got married in the interim had a seven percentage point higher chance of

Figure 2: Reasons for feeling depressed listed by boys and girls aged 18–22 who reported symptoms of moderate to severe depression in the two weeks prior to the interview by their marital status at wave 2, Uttar Pradesh, 2018–19



Notes: All Ns are unweighted. ¹Five boys who got married in the interim are not included in the analysis. ²Ninety-six girls who got married in the interim are included in the category of those married at wave 2 and hence excluded from this group. ³Includes girls who were already married at wave 1 and girls who got married in the interim.

reporting moderate to severe depression-related symptoms compared with those who remained unmarried at wave 2 (regression coefficient = 0.070; p=0.000).

Similarly, drawing on the sample of girls who were aged 15–19 and married at wave 1, the fixed effects regression analysis shows that for married girls, additionally, marital physical violence and dowry harassment increased the risk of moderate to severe depression. Girls who reported physical violence in the 12 months preceding the interview and/or

⁵The number of younger adolescents who reported moderate to severe depression-related symptoms was small (N=52), hence findings are not presented.

experience of dowry harassment had a six percentage point higher chance of reporting moderate to severe depression-related symptoms than those who did not report such violence (regression coefficient=0.062; p=0.001).

Key Finding 4

Injuries and infections significantly affected the mental health conditions of girls

Older girls who experienced injuries in a road accident or in other circumstances had a 3–7 percentage point higher chance of reporting moderate to severe depression-related symptoms as compared with those girls who did not experience such injuries (regression coefficient 0.033, p=0.012 for girls aged 15–19 who were unmarried at wave 1 and 0.074, p=0.022 for girls aged 15–19 who were married at wave 1). Girls who experienced symptoms suggestive of genital infection had a 5–7 percentage point higher chance of reporting moderate to severe depression-related symptoms than those who did not report experience of such symptoms (regression coefficient 0.074, p=0.000 for girls aged 15–19 who were unmarried at wave 1 and 0.048, p=0.012 for girls aged 15–19 who were married at wave 1). This latter finding may reflect stress or anxiety

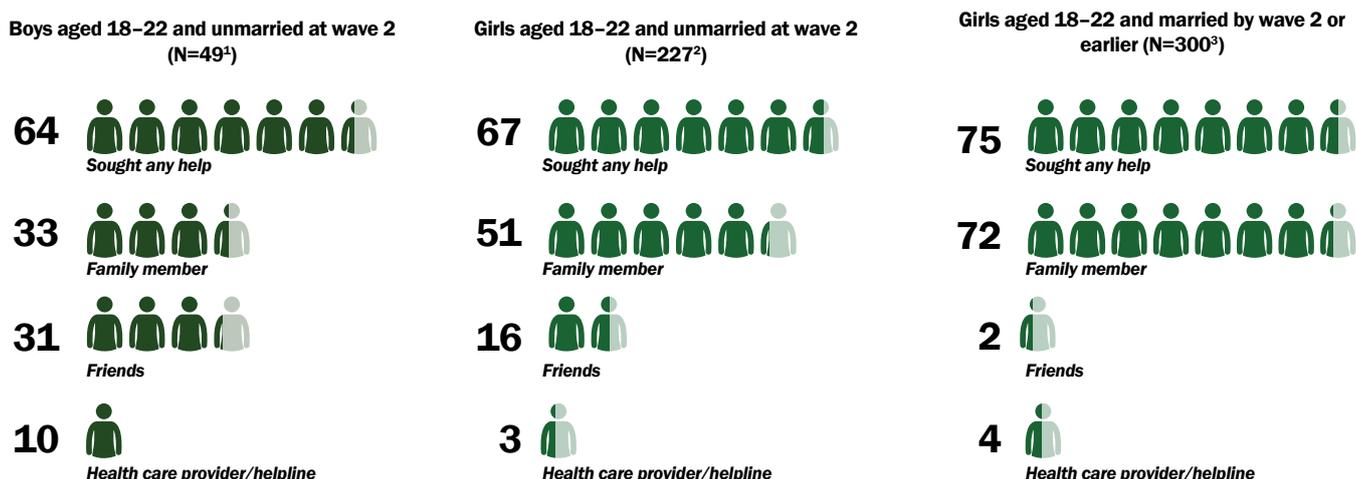
about a stigmatised biological symptom or self-reports of genital infection may be a culturally specific symptom for depression (Jejeebhoy, 2005; Patel et al., 2008; Prasad et al., 2003).

Key Finding 5

While most adolescents sought help for mental health issues, this was mostly sought from a family member and few sought help from healthcare providers

We asked boys and girls who reported experience of moderate to severe depression-related symptoms at wave 2 whether they had sought any help. We present our findings in Figure 3 for boys and girls aged 18–22 at wave 2.⁶ Most adolescents at wave 2 reported that they had sought help—64 percent of unmarried boys, 67 percent of unmarried girls, and 75 percent of married girls aged 18–22 (Figure 3). Boys and girls, particularly girls, sought help mostly from a family member (33% of unmarried boys, 51% of unmarried girls, and 72% of married girls with symptoms of moderate to severe depression). Very few adolescents with symptoms of depressive disorders sought help from healthcare providers—10 percent of boys and just 3–4 percent of girls.

Figure 3: Percentage of adolescents aged 18–22 with symptoms indicative of moderate to severe depression in the two weeks preceding the interview at wave 2 who sought help, Uttar Pradesh, 2018–19



Notes: All Ns are unweighted. Percentage total may not equal to 100 owing to multiple responses. ¹Five boys who got married in the interim are not included in the analysis. ²Ninety-six girls who got married in the interim are included in category of those married at wave 2 and hence excluded from this group. ³Includes girls who were already married at wave 1 and girls who got married in the interim.

⁶The number of younger adolescents who reported moderate to severe depression-related symptoms was small (N=52) and hence, findings are not presented.

Policy and Programme Recommendations

The Government of India has long recognised the importance of addressing mental health. It launched the National Mental Health Programme in 1982 and has sought to strategically address mental health concerns of adolescents through the Rashtriya Kishor Swasthya Karyakram and the National Mental Health Policy 2014 (Ministry of Health and Family Welfare 2014a; 2104b). The UDAYA study findings confirm the urgent need for these efforts and draw attention to priority areas with regard to the mental health concerns of adolescents. It is important to note that despite the high rates of depression reported in the UDAYA study, existing societal stigma around mental health disorders may mean that the actual burden of mental health morbidities among adolescents is much higher. The rise in the mental health burden with the outbreak of COVID-19 increases the urgency for mental health promotion interventions.

Improve mental health screening and expand support options at the grassroots level

Our findings that the burden of mental health issues increased over time among adolescents and that only a negligible percentage of adolescents sought help for their mental health issues from trained providers call for regular screening for mental health morbidities by community healthcare workers to help early diagnosis and to provide support. The National Mental Health Policy 2014 (Ministry of Health and Family Welfare, 2014b) and the National Health Policy 2017 (Ministry of Health and Family Welfare, 2017) have recognised the importance of early screening, identification and treatment of mental health problems, upgrading the skills of auxiliary nurse midwives (ANMs) to address mental health, and training accredited social health activists (ASHAs) to undertake community/home-based mental health promotion activities. It is therefore important that these policy prescriptions are translated into action.

Recognise the vulnerability of married adolescent girls and invest in their mental health promotion

Findings from the UDAYA study highlight the disproportionate levels of depression, suicide ideation, and suicide among married girls. This first and foremost calls for recognising the vulnerability of married adolescent girls in mental health policies and programmes. Although the National Mental

Health Policy has acknowledged the vulnerability of women and children, it is important to recognise that married adolescent girls are particularly vulnerable. Our findings further affirm the urgency for the elimination of child marriage. In addition, while the practice continues, special efforts by service providers, including anganwadi workers and ASHAs are needed to identify married adolescent girls and offer them support and/or referral for violence prevention and mitigation, pregnancy loss or infertility, and mental health. Available evidence suggests that community health workers can be trained to use simple decision-making tools to match patients' problems with specific treatments and provide pared down treatment elements (Patel, 2020).

Integrate culturally specific symptoms of depression into mental health screening and healthcare

The relationship between genital symptoms and PHQ \geq 10 suggests that depression may be triggered by genital infection symptoms. Greater awareness among healthcare workers of this possible association may improve identification and support of women in need of mental or gynecological healthcare.

Assess whether gender transformative programmes can improve mental health outcomes among adolescents

Our findings that violence experience is an important risk factor for poor mental health outcomes among married girls indicate the need for gender transformative programmes to promote egalitarian gender norms among adolescent boys and girls. However, as noted in a recent commentary in *The Lancet*, more research is needed to assess whether and how gender transformative programmes can promote mental health among adolescents (Kapungu et al., 2018).

Integrate mental health outcomes in monitoring the performance and success of poverty alleviation programmes

Findings that employment-related stresses and household financial insecurity are important sources of stress underlie the interlinkages between poverty and poor mental health. Although current evidence is equivocal, in a limited number of studies, conditional cash transfers and asset promotion were found to have a positive effect on mental health (Lund et al., 2011). Future evaluations of poverty alleviation programmes might consider including locally valid mental health outcome measures.

Adapt and upscale school- and community-based resilience training, life skills education, and/or school health-promotion interventions

While very few mental health interventions for adolescents have been evaluated in India, some pilot interventions have shown promise. These include school- and community-based resilience training programmes, life skills education focussing on mental health promotion, and multi-component school health-promotion interventions (Srikala and Kishore, 2010; Balaji et al., 2011; Mathias et al., 2018; Leventhal et al., 2015; Leventhal and Sachs, 2011; Andrew, 2010; Shinde et al., 2018; Rajaraman et al., 2012). Investments are required to adapt and upscale these promising models. The National Mental Health Policy 2014 has called for imparting life skills education for adolescents in schools and colleges to be delivered by teachers and other trained facilitators and also for out-of-school adolescents through youth clubs and other forums; training of teachers in mental health promotion and distress alleviation; and designing appropriate curricula and pedagogy (Ministry of Health and Family Welfare 2014b).

Circulate widely the COVID-19 psycho-social toll-free helpline number and expand the reach of the information, education and communication (IEC) materials to help adolescents and young adults deal with fear and anxiety

The Ministry of Health and Family Welfare has taken several initiatives, including introducing a toll-free number for providing counselling support, developing guidelines for healthcare providers, and providing IEC materials. It is important that the toll-free number and the IEC materials are popularised.

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